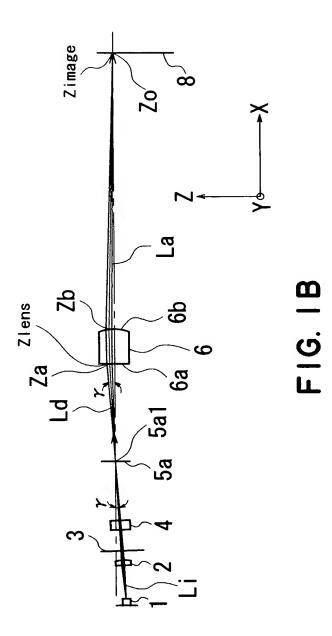
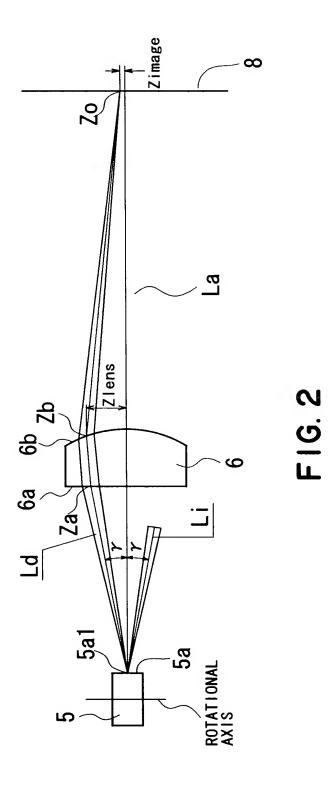


FIG. IA

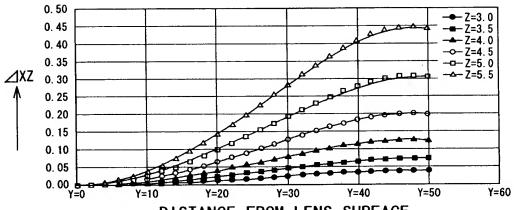




		7=6.0	0.000	0.0022	0.0089	0.0199	0.0352	0.0545	0.0778	0.1046	0.1348	0.1679	0. 2035	0.2413	0. 2807	0.3212	0.3622	0.4030	0.4430	0.4815	0.5177	0.5507	0.5797	0.6038	0.6221	0. 6334	0. 6368	0. 6312
		2=2. 5	0.000	0.0016	0.0063	0.0141	0.0248	0.0385	0.0549	0.0739	0.0951	0.1185	0.1437	0. 1704	0. 1982	0. 2268	0. 2557	0. 2846	0.3128	0.3400	0.3655	0.3888	0. 4093	0.4264	0. 4392	0.4472	0.4496	0.4456
	ES)	7=5.0	0.0000	0.0011	0.0043	0.0096	0.0170	0.0263	0.0375	0.0504	0.0650	0.0810	0.0982	0.1164	0.1354	0.1549	0.1747	0.1944	0. 2137	0. 2322	0.2497	0. 2656	0.2796	0. 2912	0.3000	0.3055	0.3071	0.3044
E 6b	AXIS (Z-COORDINATES	2=4.5	0.000	0.0007	0.0028	0.0063	0.0111	0.0173	0.0246	0.0331	0.0426	0.0531	0.0644	0.0764	0.0888	0. 1016	0.1146	0.1275	0.1402	0.1524	0. 1638	0.1742	0.1834	0. 1911	0. 1968	0.2004	0. 2015	0. 1997
SURFACE	(Z-C00	2=4.0	0.0000	0.0004	0.0018	0.0039	0.0070	0.0108	0.0154	0.0207	0.0266	0.0332	0.0402	0.0477	0.0554	0.0634	0.0715	0.0796	0.0875	0.0951	0. 1023	0.1088	0.1145	0.1193	0.1229	0. 1251	0. 1258	0.1247
ш		2=3.5	0.000	0.0003	0.0010	0.0023	0.0041	0.0063	0.0000	0.0121	0.0156	0.0194	0.0236	0.0279	0.0325	0.0372	0.0419	0.0467	0.0513	0.0558	0.0599	0.0638	0.0671	0.0699	0.0720	0.0733	0.0737	0.0731
7 m) 0F	<b>OPTICAL</b>	Z=3.0	0.000	0.0001	9000 0	0.0012	0.0022	0.0034	0.0049	0.0065	0.0084	0.0105	0.0127	0.0151	0.0175	0.0201	0.0226	0.0252	0.0277	0.0301	0.0324	0.0344	0.0362	0.0377	0.0389	0.0396	0.0398	0.0394
AMOUNT ( $\mu$ m)	SAGITTAL	2=2.5	0.000	0.0001	0.0003	9000 0	0.0011	0.0016	0.0023	0.0032	0.0041	0.0051	0.0061	0.0073	0.0085	0.0097	0.0109	0.0121	0.0134	0.0145	0.0156	0.0166	0.0175	0.0182	0.0187	0.0191	0.0192	0.0190
	FROM SAG	2=2.0	0.000	0.000	0.0001	0.0002	0.0004	0.0007	0.0010	0.0013	0.0017	0.0021	0.0025	0.0030	0.0035	0.0040	0.0045	0.0050	0.0055	0.0059	0.0064	0.0068	0.0072	0.0076	0.0077	0.0078	0.0079	0.0078
ASPHER I CAL		2=1.5	0.0000	0.000	0.000	0.0001	0.0001	0.0002	0.0003	0.0004	0.0005	0.0007	0.0008	0.000	0.0011	0.0013	0.0014	0.0016	0.0017	0.0019	0.0020	0.0022	0.0023	0.0024	0.0024	0.0025	0.0025	0.0025
ITTAL A	DISTANCE	Z=1.0	0.000	0000	0.000	0000	0.000	0.000	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003	0.0004	0.0004	0.0004	0.0004	0.0005	0.0005	0.0005	0.0005	0.0005
SAG		2=0.5	0000	0.000	0.0000	0000	0.0000	0.000	0.0000	0.000	0.0000	0000	0.000	0.0000	0000	0.0000	0000	0000	0.000	0.0000	0.0000	0000	0.0000	0.000	0.000	0.000	0.0000	0.0000
		Z=0.0	0000	0000	0.00	0.000	0.000	0.000	0.000	0 0000	0.000	0000	0 0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0 0000	0000	0 0000	0 0000	00000
		Y (nm) \Z (mm)		Y= 2	γ= 4	Y= 5	γ= 8	Y=10	Y=12	Y=14	Y=16	Y=18	Y=20	Y=22	Y=24	Y=26	Y=28	Y=30	Y=32	Y=34	Y=36	Y=38	×=40	Y=42	Y=44	Y=46	Y=48	Y=50
	:	<u>.</u>						(S)	E.	A7 FA	I N	18	90 S	O:	)- - - -	人) []	S	RI RI	Y V	L CE	N/	\T	2 I	010				

F16.3

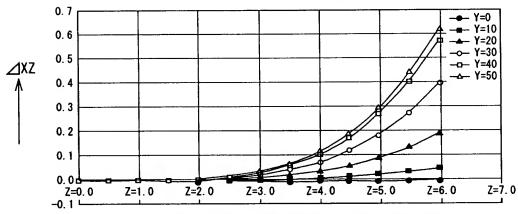




DISTANCE FROM LENS SURFACE OPTICAL AXIS (Y-COORDINATES)

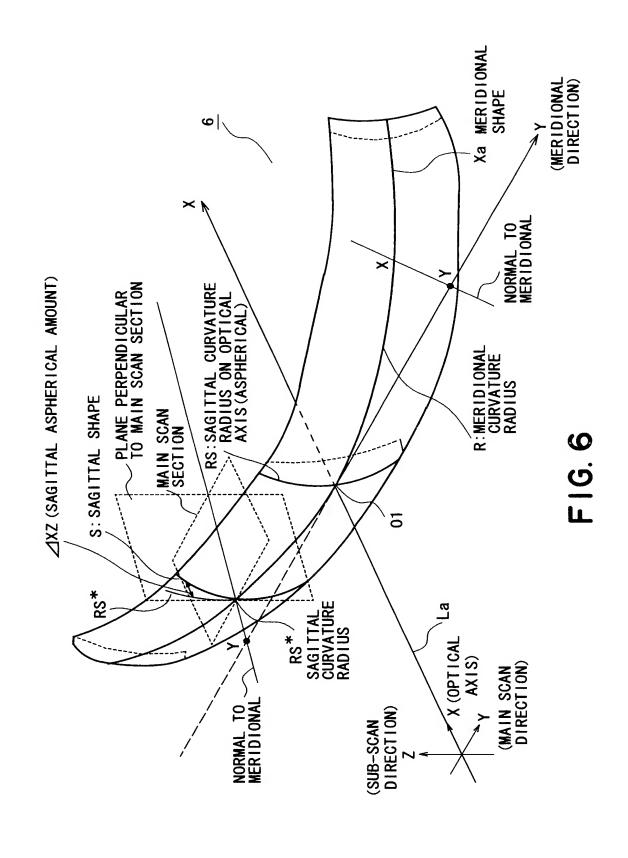
FIG. 4

#### SAGITTAL ASPHERICAL AMOUNT ( $\mu$ m)



DISTANCE FROM SAGITTAL OPTICAL AXIS (Z-COORDINATES)

FIG. 5



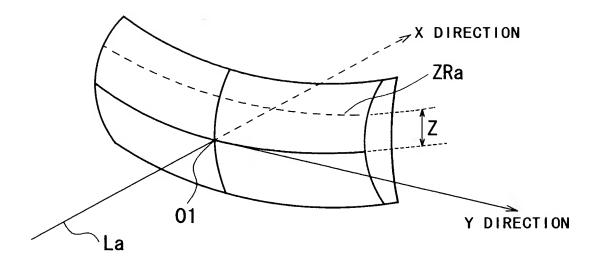


FIG. 7

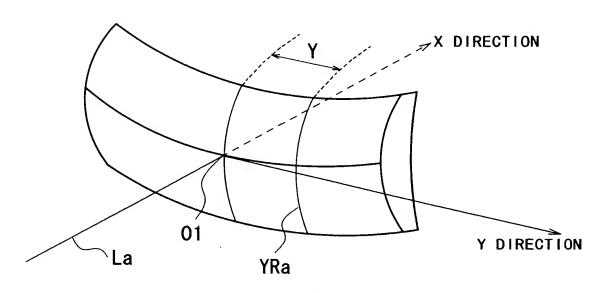
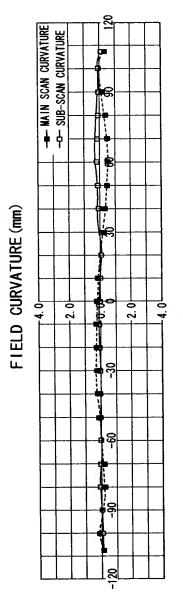
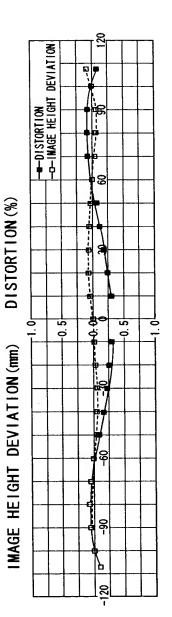


FIG. 8



F16.9A



F16.9B

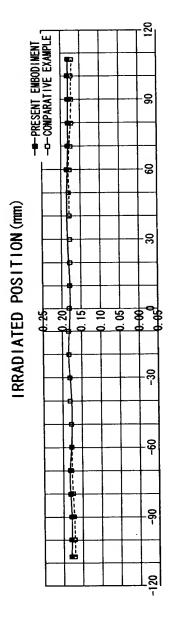
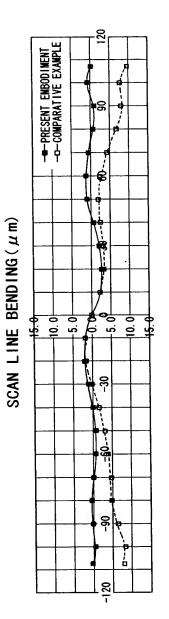


FIG. 10A



F1G. 10B

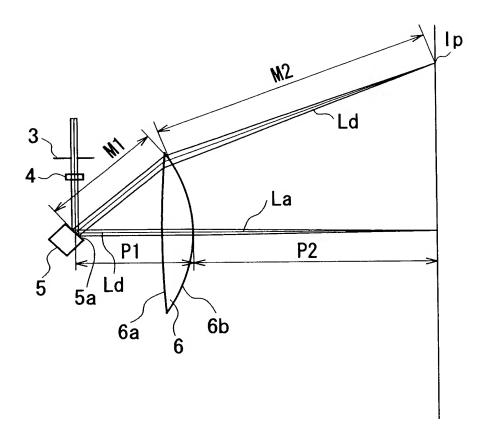
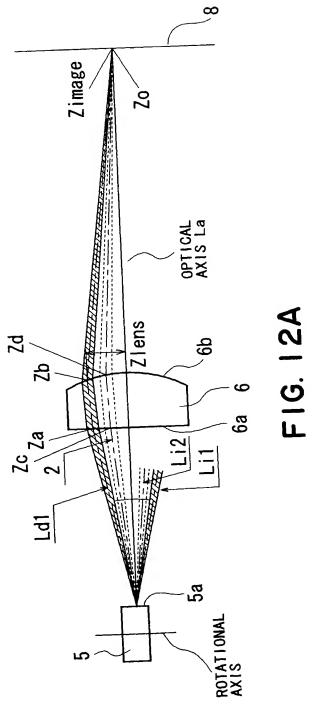
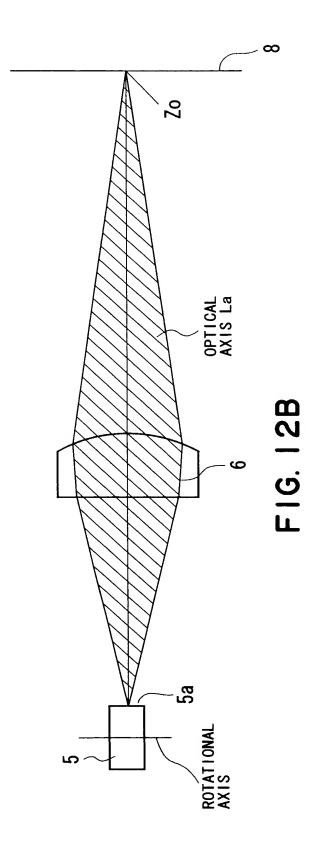


FIG. 11

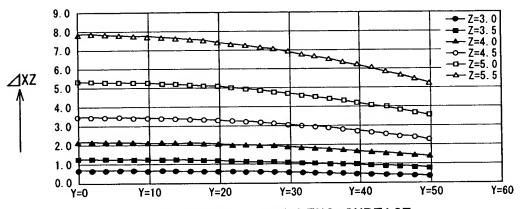




		2=5.5 Z=6.0	7.8341 11.0954	7. 8302 11. 0899		7. 7986 11. 0452		2	7. 6922 10. 8944	7. 6409 10. 8218	7. 5817 10. 7380	7. 5147 10. 6430	7. 4398 10. 5369	7. 3570 10. 4196	7. 2663 10. 2912	7. 1677 10. 1515	7. 0612 10. 0007	6	6.8246 9.6656	6	6. 5564 9. 2858	6. 4105 9. 0792	6. 2567 8. 8614	6. 0950 8. 6324	5. 9255 8. 3922	∞		5. 3694 7. 6047
	TES)	2=5.0	5. 3508	5.3481	5.3400	5.3266	5.3077	5. 2835	5. 2538	5. 2188	5. 1784	5. 1326	5. 0815	5. 0249	4.9630	4.8956	4.8229	4. 7448	4. 6613	4. 5724	4. 4781	4.3785	4. 2734	4. 1630	4.0472	3.9260	3. 7994	3.6674
ЭЕ 6b	RDINA	2=4.5	3.5107	3. 5089	3, 5036	3, 4948	3.4824	3,4665	3.4470	3. 4241	3.3976	3, 3675	3, 3339	3, 2968	3. 2562	3. 2120	3.1643	3.1131	3, 0583	3.0000	2. 9381	2.8727	2. 8038	2. 7313	2. 6553	2.5758	2.4928	2.4062
EXIT SURFACE	AX I S (Z-COORD I NATES)	2=4.0	2. 1917	2. 1906	2. 1873	2. 1818	2.1740	2. 1641	2. 1520	2. 1376	2. 1211	2. 1023	2. 0814	2. 0582	2. 0328	2. 0052	1.9755	1.9435	1. 9093	1.8729	1.8342	1. 7934	1. 7504	1. 7052	1. 6577	1. 6041	1. 5562	1. 5022
		Z=3. 5	1. 2847	1. 2841	1. 2821	1. 2789	1. 2744	1. 2686	1. 2614	1. 2530	1. 2433	1. 2323	1. 2201	1. 2065	1. 1916	1.1754	1. 1580	1. 1392	1.1192	1.0978	1.0752	1.0513	1.0260	0.9995	0.9717	0.9426	0.9122	0.8805
(µm)	INCE FROM SAGITTAL OPTICAL	2=3.0	0.6935	0. 6931	0. 6921	0. 6903	0.6879	0. 6847	0.6809	0.6764	0. 6711	0.6652	0.6586	0. 6512	0.6432	0. 6345	0.6250	0.6149	0.6041	0. 5926	0.5804	0.5674	0.5538	0. 5395	0. 5245	0. 5088	0. 4924	0. 4753
AMOUNT ()		2=2.5	0.3344	0.3343	0.3338	0.3329	0.3317	0.3302	0.3284	0.3262	0.3237	0.3208	0.3176	0.3141	0.3102	0908 0	0.3014	0. 2965	0. 2913	0. 2858	0. 2799	0. 2737	0. 2671	0. 2602	0. 2529	0. 2454	0. 2375	0. 2292
		2=2.0	0.1370	0.1369	0.1367	0.1364	0.1359	0. 1353	0.1345	0.1336	0.1326	0.1314	0. 1301	0.1286	0.1271	0.1253	0.1235	0.1215	0.1193	0.1171	0.1146	0.1121	0.1094	0.1066	0.1036	0.1005	0.0973	0.0939
<b>ASPHERICAL</b>		2=1.5	0.0433	0.0433	0.0433	0.0431	0.0430	0.0428	0.0426	0.0423	0.0419	0.0416	0.0412	0.0407	0.0402	0.0397	0.0391	0.0384	0.0378	0.0370	0.0363	0.0355	0.0346	0.0337	0.0328	0.0318	0.0308	0.0297
TTAL /	DISTANCE	2=1.0	0.0086	0.0086	0.0085	0.0085	0.0085	0.0085	0.0084	0.0084	0.0083	0.0082	0.0081	0.0080	0.0079	0.0078	0.0077	0.0076	0.0075	0.0073	0.0072	0.0070	0.0068	0.0067	0.0065	0.0063	0.0061	0.0059
SAG		2=0.5	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
		2=0.0	0.000	0.000	0000	0.000	0.000	0000	0000	0000	0.000	0000	0000	0000	0.000	0000	0.000	0000	0000	0.000	0.000	0000	0000	0000	0.0000	0.000	0.0000	0000 0
		( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	Λ= 0	γ= 2	Y= 4	γ= 5	γ= 8	Y=10	Y=12	Y=14	Y=16	Y=18	Y=20	Y=22	Y=24	Y=26	Y=28	Y=30	Y=32	Y=34	Y=36	Y=38	Y=40	Y=42	Y=44	Y=46	Y=48	Y=50
	;	<u>-</u>						(S)	LE 'CI	A7 FA	Al N	าร เก	S 90	O:	)- (	Y)	S VO	Я- I X	V I	L CE	N/	/T	2 I 2 I	0 0				

F1G. 13

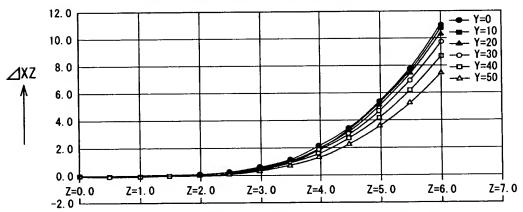
#### SAGITTAL ASPHERICAL AMOUNT ( $\mu$ m)



DISTANCE FROM LENS SURFACE OPTICAL AXIS (Y-COORDINATES)

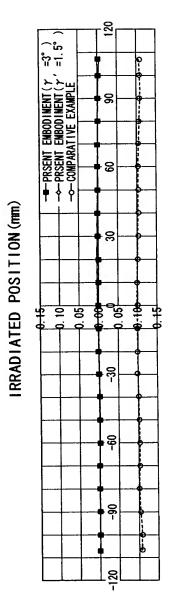
FIG. 14

### SAGITTAL ASPHERICAL AMOUNT ( $\mu$ m)

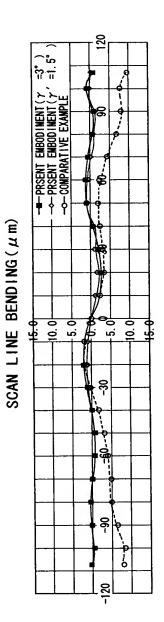


DISTANCE FROM SAGITTAL OPTICAL AXIS (Z-COORDINATES)

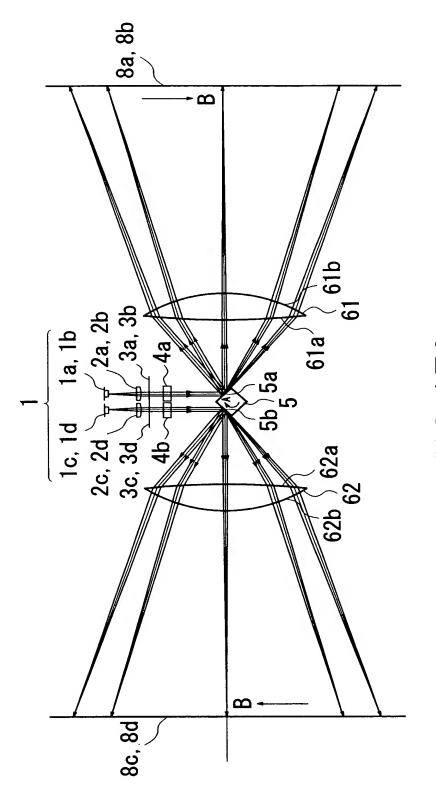
FIG. 15



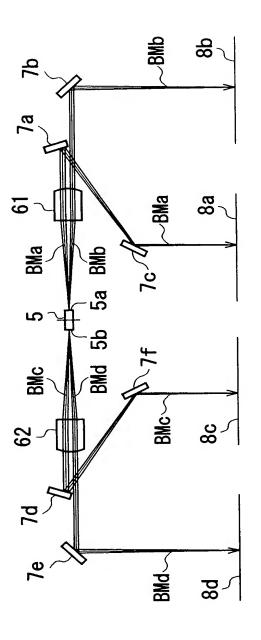
F1G. 16A



F1G. 16B



F1G. 17A



F1G. 17B

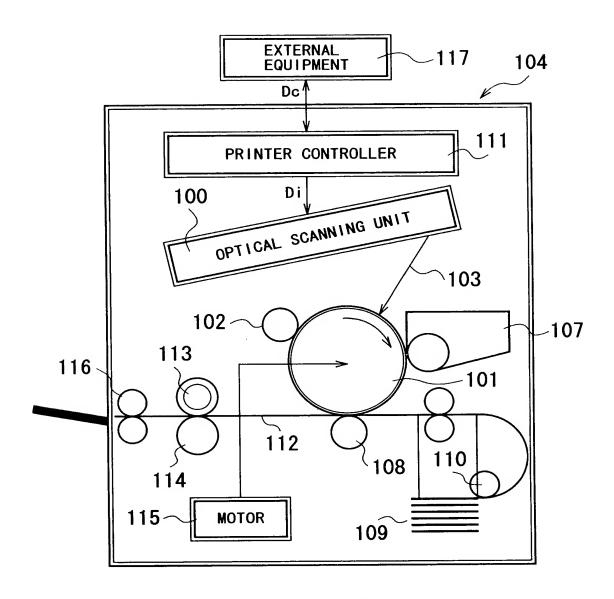


FIG. 18

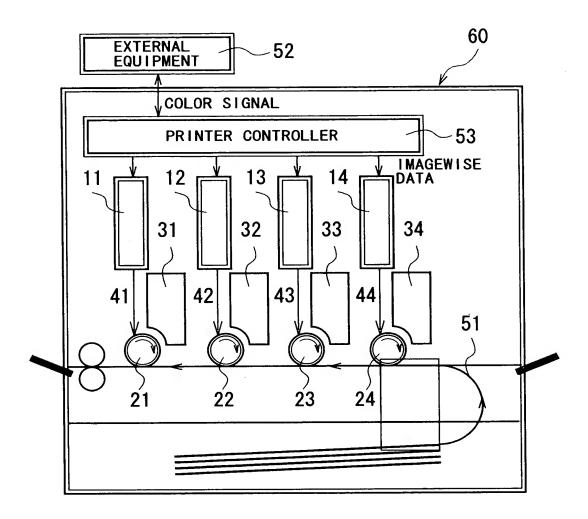


FIG. 19

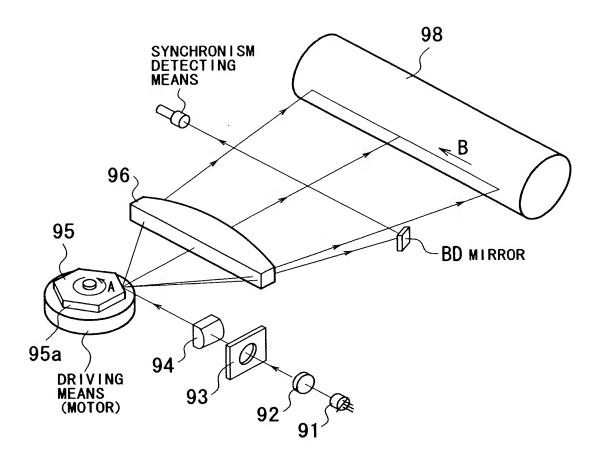
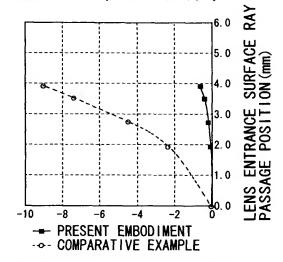


FIG. 20

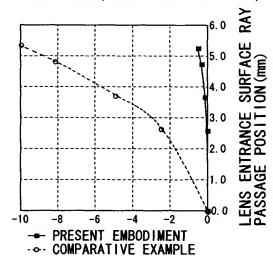
# SUB-SCAN SPHERICAL ABERRATION COMPARISON (SCAN CENTER)



SPHERICAL ABERRATION (mm)

### FIG. 21A

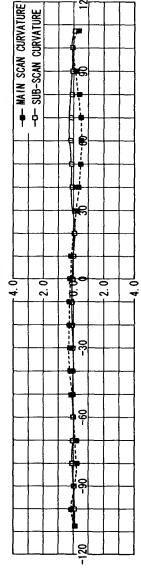
# SUB-SCAN SPHERICAL ABERRATION COMPARISON (SCAN END PORTION)



SPHERICAL ABERRATION (mm)

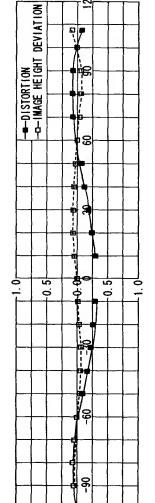
FIG. 21B

FIELD CURVATURE (mm)



F16. 22A

IMAGE HEIGHT DEVIATION (mm) DISTORTION (%)



P

-120

F16. 22B